Clean version of the amendment to the specification:

BACKGROUND OF THE INVENTION

The invention belongs to the domain of positive displacement machines for liquids with rotating cylinders F 04 B 1/10 and positive displacement machines for liquids F 04 C 2/22.

SUMMARY OF THE INVENTION

The core of the invention is to put a movable sleeve into a vane pump, which enables regulation of the fluid flow.

BRIEF DESCRIPTION OF THE DRAWING

Fig. 1 represents a side sectional view of the pump in accordance with the present invention;

Fig. 2 represents a top sectional view of the pump in accordance with the present invention taken along the dotted section line between the arrows in Fig. 1;

Fig. 3 represents various arcs in the pump in accordance with the present invention; and

Fig. 4 represents compensation of various arcs in the pump in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

With reference to Fig. 1, a side sectional view of the pump in accordance with the present invention, the pump can be used in all applications where variable fluid flow is required. The pump in accordance with the present invention comprises a casing (1), a rotor 2 with vanes 12 and shaft , a movable sleeve (3), two lids (4), two end stops (5), and two supports (6 and 7).

Fig. 2, a top sectional view of the pump in accordance with the present invention taken along the dotted section line between the arrows in Fig. 1, shows the casing 1, the rotor 2 with vanes 12 and shaft 14, and the movable sleeve 3.

With reference to Fig. 1 and Fig 4, the movable sleeve ~~(3)~~ has two apertures (a) and two circulation channels (b) which may be either in the casing ~~(1)~~ or partially in the casing ~~(1)~~ and partially in the sleeve ~~(3)~~.

With reference to Fig.3, it is obvious that the arcs (m) and (n) are unequal (Fig. 3). Therefore, it is necessary to overcome this disparity in the moment when vanes 12 are approaching the aperture (a).

With reference again to Fig. 1 and Fig. 4, solution to this problem is obtained by one end of each aperture (a) being slanted (Fig. 3). When the sleeve (3) moves axially, the vanes 12 will reach the aperture (a) earlier or later. The apertures (a) have the opposite ends slanted.

Axial movement of the sleeve ~~(3)~~ results from guidance of the inclined surface on support ~~(6)~~.

The sleeve ~~(3)~~ can move angularly (arcuately) to change the fluid flow. Regardless of the rotational direction of the rotor 2, by turning the sleeve 3 for the full circle (in any direction) the fluid flow is changed from zero to maximum in one direction and then through zero to maximum in the opposite direction and finally to zero again.

The rotor 2 (excluding vanes 12) should not touch the sleeve 3.